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Social and Economic Resource Report

Little Deer Project

Goosenest Ranger District, Klamath National Forest
Siskiyou County, California

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Table of Contents

Executive Summary.....	3
Methodology.....	3
Overview of Methodology.....	3
Analysis Indicators.....	3
Spatial and Temporal Context	4
Affected Environment.....	4
Environmental Consequences.....	5
Alternative 1.....	5
Direct Effects and Indirect Effects.....	5
Cumulative Effects.....	5
Alternative 2.....	6
Direct Effects and Indirect Effects.....	6
Cumulative Effects.....	7
Alternative 3.....	7
Direct Effects and Indirect Effects.....	7
Cumulative Effects.....	8
Comparison of Effects	8
Compliance with law, regulation, policy, and the Forest Plan	8
Social Economic Report	10
Introduction.....	10
Proposed Action and Alternatives Analyzed	10
Methodology	10
Detailed Methodology	10
Analysis Indicators.....	11
Spatial and Temporal Bounding of Analysis Area	11
Affected Environment.....	11
Environmental Consequences.....	18
Alternative 1.....	18
Direct Effects and Indirect Effects.....	18
Cumulative Effects.....	19
Alternative 2.....	19
Direct and Indirect Effects	19
Cumulative Effects.....	24
Alternative 3.....	24
Direct and Indirect Effects	24
Cumulative Effects.....	28
Summary of Effects	28
Compliance with law, regulation, policy, and the Forest Plan	28
Literature Cited.....	30

List of Tables

Table S- 1: Comparison of social and economic effects of alternatives	8
Table 1: Population statistics of Siskiyou County	13
Table 2: Demographic Statistics of Siskiyou County	13
Table 3: Land Ownership of Siskiyou County.....	17
Table 4: Alternative 2 Volume per Acre.....	19
Table 5 Alternative 2 Timber Sale Volume	20
Table 6: Alternative 2 2015 Harvest Jobs and Labor Income	22
Table 7: Alternative 2 2015 Harvest Jobs and Labor Income	23
Table 8: Alternative 3 Volume per Acre.....	24
Table 9: Alternative 3 Timber Sale Volume	24
Table 10: Alternative 3 2015 Harvest Jobs and Labor Income	26
Table 11: Alternative 3 2016 Harvest Jobs and Labor Income	27
Table 12: Alternative Summary Comparison	28

List of Figures

Figure 1: Population Trend of Siskiyou County	14
Figure 2: Employment Trend of Siskiyou County	14
Figure 3: Personal Income of Siskiyou County	15
Figure 4: Unemployment Rate of Siskiyou County	15
Figure 5: Timber Employment of Siskiyou County.....	16
Figure 6: Timber Employment of Siskiyou County versus USA Timber Employment	16
Figure 7: Jobs in Timber Sectors of Siskiyou County	17
Figure 8: Alternative 2 2015 Harvest Timber Sale Economics Evaluation	21
Figure 9: Alternative 2 2016 Harvest Timber Sale Economics Evaluation	22
Figure 10: Alternative 3 2015 Harvest Timber Sale Economic Evaluation.....	25
Figure 11: Alternative 3 Timber Sale Economic Evaluation 2016 Harvest.....	26

Executive Summary

Methodology

Overview of Methodology

The Region 5 Timber Sale Economic Evaluation model and the Treatments for Restoration Economic Analysis Tool (TREAT) model are being used to analyze the effects of the project on the economics of Siskiyou County. The Region 5 Timber Sale Economic Evaluation model calculates the approximate residual value of the timber sale to the purchaser after completion.

The TREAT model calculates approximate present net value, which shows potential employment in number of jobs and the probable income these jobs will provide. These models provide an effective comparison of the economic resources for each project alternatives. All calculations and models are a best estimate and may differ from actual results. Total treatment acres are likely to change before implementation.

Social and civil rights analysis is based on the quality of life of people affected by this project. Quality of life does depend on an economic element, for people to sustain themselves and their families, analyzed in the economic portions of this document. Tables and figures, created using the Economic Profile System – Human Dimensions Toolbox, are used to display the social and economic status of Siskiyou County compared to the State of California and the United States. This software is produced by Headwaters Economics. The Economic Profile System – Human Dimensions Toolbox uses published statistics from federal data sources including the Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; Bureau of Labor Statistics, U.S. Department of Labor; and others.

Safety is an analysis indicator that is estimated by the number of acres on which standing dead trees are removed by harvest (for forest workers, firefighters and public users of the Forest) and by the number of miles of roadside hazard trees removed (for forest workers, firefighters and public users of the Forest who drive through the project area). Safety from high intensity wildfires for residents of communities near the project area is also estimated by number of acres and miles of roadside hazards treated in each alternative.

Analysis Indicators

Economic analysis indicators for this section are volume per acre of timber sale units, employment created, potential income to purchaser and employees, and cords of public firewood.

Quality of life of people affected by this project will be the indicator used for the social analysis. Elements of quality of life are lifestyles, values, beliefs, and health. For this project, the primary measure is the effect on the value of using the resources of the Forest and project area for benefit to the county residents (Siskiyou County Land and Resource Management Plan 1994).

Safety of forest workers, firefighters, and public users of the Forest will also be measured in this report. Safety will be measured by burned acres treated and miles of roadside hazard trees removed. Dead trees pose substantial safety hazards to the public as they deteriorate; therefore, a lack of delay in implementation is also used to measure safety.

Spatial and Temporal Context

The borders of Siskiyou County spatially bound both the social and economic analyses for this section. Siskiyou County will be used as the analysis area because both the project area and the closest mill that will take products created from this project are located within the county.

This section considers five years as the time period for effects analysis on social and economic resources. This temporal bounding approximates when all treatments will be completed and products from implementation will have entered the wood products market, and when social effects of the project will be noticeable.

Affected Environment

The closest communities to this project are the towns of Bray and Macdoel. Bray is about eight air miles east of the Little Deer project area, and Macdoel is about 12 air miles north east of the project area. The shortest potential haul routes for this project do not go through these communities.

The Siskiyou County population consists of Caucasian, African American, American Indian, Hispanic, Asian, Native Hawaiian or Pacific Islander, and other races. The American Indian population is greater in percentage when compared to California; therefore, the Forest will pay careful attention to the potential impacts of management actions on the American Indian population.

Siskiyou county demographics are notably different in many categories when compared against California and the United States; 19.6 percent of individuals and 15.7 percent of Siskiyou County families were below the poverty line; this is greater than California. The project will carefully assess the effects on low-income populations in Siskiyou County.

From 1970 to 2011, Siskiyou County's population grew from 33,258 to 44,507 people, a 34 percent increase. During the same time period, employment grew from 14,085 to 20,224 jobs, a 44 percent increase. Personal income consists of labor and non-labor income. Non-labor income includes dividends, interest, rent and transfer payments (payments from governments to individuals). Labor income in Siskiyou County has held relatively constant since 1970. Non-labor income has been on a steady rise since 1970.

Since 1990 the population has been relatively steady, staying around 44,000 people; the annual unemployment rate ranged from a low of 7.5 percent in 2000 to a high of 16.6 percent in 2010. This unemployment rate approximately followed the national trend over the same period, although Siskiyou County unemployment rates trended to be a few percent higher than the rest of the United States.

In 1998, timber represented 7.33 percent of total employment of Siskiyou County. By 2011, timber represented 4.98 percent of total employment. The steady downward trend of timber employment in Siskiyou County mirrors the trend of the whole United States. From 1998 to 2011, growing and harvesting shrank from 214 to 83 jobs, a 61.2 percent decrease, and sawmills shrank from 425 to 259 jobs, a 39.1 percent decrease. During the same period, wood products manufacturing grew from 49 to 68 jobs, a 38.8 percent increase. The sum of these figures shows a total of 688 timber jobs in 1998, and in 2011 a total of 410 jobs, which is a 40 percent decline in timber jobs between 2011 and 1998. "Although National Forests account for more than 60 percent of the county's land base, the share of the county's timber harvest off federal lands has

decreased from roughly 50 percent to less than 20 percent since the northern spotted owl was listed as threatened in 1990. Since 1990, the number of wood products manufacturing facilities in the county has declined by half” (Dennis, 2012).

Lifestyles, attitudes, beliefs and values of Siskiyou County residents are similar to those of rural residents in other counties in the western United States. Many local residents depend on the environment to support them, and this in turn affects their lifestyles and attitudes.

Environmental Consequences

Alternative 1

Direct Effects and Indirect Effects

Under this alternative no project treatment activities are proposed. The social effects of taking no action will be a continuation of the current distribution of jobs among racial and ethnic groups.

The lifestyles, values and beliefs of the people in Siskiyou County will continue on the same trend if no project is proposed. Logging companies support jobs and income, and the timber serves as an important input to production for local mills. Zero cords of firewood will be available in this alternative.

The economic direct and indirect effect of alternative 1 will not contribute to timber employment jobs, which have declined 40 percent from 1998 to 2011 (U.S. Department of Commerce 2013, Census Bureau, County Business Patterns, Washington, D.C.). The continuation of the county’s economic situation is dependent upon a continuous supply of raw material to manufacture products.

The effect on safety of implementing the no action alternative will be that zero burned acres will be treated and zero miles of roadside hazard trees will be removed. This will increase the chance of a forest worker, firefighter, or public user of Forest land being injured by a fire killed or damaged tree as time goes on and the trees deteriorate and fall down. Because no roadside hazard trees will be removed in this alternative, travel on roads within the fire area will be hindered year after year due to new trees falling into the roads. This poses a safety risk to both USFS personnel and public users who drive these roads. Fallen trees in the road may also delay the response of firefighting personnel to new wildland fires in and around the Little Deer area.

Safety for Siskiyou County as a whole will decrease slightly as the Little Deer project area only represents 0.135 percent of the Siskiyou County land base.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next five years were considered. Future foreseeable actions on National Forest System land within Siskiyou County are available on the Forest Service Schedule of Proposed Actions website: <http://www.fs.fed.us/sopa/>. These projects include the Big Pony, Ruff Grouse, Butte Mt., Landlord, Pumice, Six Shooter, and Harlan projects on the Goosenest Ranger District of the Klamath National Forest, the Salmon Salvage, Eagle Springs Hazard, Westside Salvage, Two Bit, Jess, Hotelling Roadside Hazard, Crawford, McCollins LSR, Eastend, Music LSR, Craggy, and Lover’s Canyon projects on the westside of the Klamath National Forest, and the Harris project on the McCloud Ranger District of the Shasta Trinity

National Forest. A list of planned Timber Harvest Plans for California can be found at: http://www.fire.ca.gov/resource_mgt/resource_mgt_forestpractice_thpstatus.php/. There are currently 11 Timber Harvest Plans listed for Siskiyou County.

Implementation of alternative 1 will neither support nor add to the demand for timber industry jobs and its related industries employment. Adding the social and economic effects of these projects to the effects of alternative 1 will not result in substantial social or economic cumulative effects.

Alternative 2

Direct Effects and Indirect Effects

Timber volume produced from a timber sale is a quantifiable direct effect from project actions. Volume per acre is a major factor in the economics of a timber sale. The logging costs of stump to truck are much more than the cost of truck to mill. The higher the volume per acre, the more efficient a logging operation is at producing volume for the same amount of fuel and equipment use. Alternative 2, if harvested in 2015, will average about 862 cubic feet per acre in sawlogs and 335 cubic feet per acre in biomass. Alternative 2, if harvested in 2016, will average about 576 cubic feet per acre in biomass.

Alternative 2, if harvested in 2015, shows total gross revenue of \$3,336,337, with a total cost of \$3,146,049, which leaves approximate revenue to the purchaser of \$220,288. Alternative 2, if harvested in 2016, shows total gross revenue of \$649,220, with a total cost of \$822,582, which leaves an approximate loss of revenue to the purchaser of \$(-173,362). This potential revenue includes a 10 percent profit margin added in.

Alternative 2, if harvested in 2015, will result in approximately 32.8 total annual jobs, with equal distribution of jobs among racial and ethnic groups. Direct employment from the project is 19.8 jobs and 12.9 indirect/induced jobs. This results in a direct labor income of \$541,644, and an indirect/induced labor income of \$681,190, totaling \$1,222,834 annual labor income. Alternative 2, if harvested in 2016, will result in approximately 14.3 total annual jobs, with equal distribution of jobs among racial and ethnic groups. Direct employment from the project is 12 jobs and 2.3 indirect/induced jobs. This results in a direct labor income of \$111,521, and an indirect/induced labor income of \$119,673, totaling \$231,194 annual labor income.

The effect on safety of implementing alternative 2 will be that 1,821 burned acres will have dead trees removed and about 12 miles of roadside hazard trees will be removed. Delaying treatment until 2016 will negatively affect safety during 2015. Safety for Siskiyou County as a whole will increase slightly as the Little Deer project area only represents 0.135 percent of the Siskiyou County land base.

Public firewood cutting may be opened (after timber harvest) within areas analyzed for timber harvest in alternative 2. One 87 acre unit will not be commercially harvested and instead be opened exclusively for public firewood. However, the amount of firewood available will be low for multiple reasons. Ponderosa pine, the main species in the project area, is not a desired species for firewood. Large diameter downed wood will be left as coarse woody debris and large snags will be retained as wildlife habitat. Because firewood will not be available until after harvesting operations are complete (at the earliest this will be fall 2015 or spring 2016) most wood available

for firewood will already have some rot in it making it less desirable for firewood cutters. Due to these factors it is estimated that only about 100 cords of firewood will be available.

Contractors and purchasers often use a local work force for logging and hauling. This project will help slow the decline in timber employment in Siskiyou County. The firewood areas in this alternative will contribute to the 4,000-cord yearly demand of surrounding communities from the Goosenest Ranger District. The value of the timber sale portion of the project at advertised rates (if harvested in 2015) is about \$220,232. One quarter of this value may contribute \$55,058 to Siskiyou County as timber receipts. Changes in lifestyles, values, attitudes and beliefs due to implementation of the Little Deer project are likely to be immeasurable due to the small amount of social effects from the project.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next five years were considered as noted in the cumulative effects of alternative 1. Adding the effects of alternative 2 to the social and economic effects of ongoing and reasonable foreseeable future projects will result in measureable effects but is not likely to result in substantial social or economic cumulative effects.

Alternative 3

Direct Effects and Indirect Effects

Alternative 3, if harvested in 2015, will average about 862 cubic feet per acre in sawlogs and 335 cubic feet per acre in biomass. Alternative 3, if harvested in 2016, will average about 576 cubic feet per acre in biomass.

Alternative 3, if harvested in 2015, shows total gross revenue of \$3,024,596, with a total cost of \$2,835,439, which leaves approximate revenue to the purchaser of \$189,157. Alternative 3, if harvested in 2016, shows total gross revenue of \$583,310, with a total cost of \$747,660, which leaves an approximate loss of revenue to the purchaser of (\$-164,350). This potential revenue includes a 10 percent profit margin added in.

Alternative 3, if harvested in 2015, will result in approximately 30.6 total annual jobs, with equal distribution of jobs among racial and ethnic groups. Direct employment from the project is 18.8 jobs and 11.6 indirect/induced jobs. This results in a direct labor income of \$487,842, and indirect/induced labor income of \$612,796, totaling \$1,100,638 annual labor income. Alternative 3, if harvested in 2016, will result in approximately 13.9 total annual jobs, with equal distribution of jobs among racial and ethnic groups. Direct employment from the project is 11.8 jobs and 2.1 indirect/induced jobs. This results in a direct labor income of \$101,002, and indirect/induced labor income of \$107,827, totaling \$208,829 annual labor income.

The effect on safety of implementing alternative 3 will be that 1,558 burned acres will have dead trees removed and about 12 miles of roadside hazard trees will be removed. Delaying treatment until 2016 will negatively affect safety during 2015. Safety for Siskiyou County as a whole will increase slightly as the Little Deer project area only represents 0.135 percent of the Siskiyou County land base.

Public firewood cutting may be opened (after timber harvest) within areas analyzed for timber harvest in alternative 3. However, the amount of firewood available will be low for multiple

reasons. Ponderosa pine, the main species in the project area, is not a desired species for firewood. Large diameter downed wood will be left as coarse woody debris and large snags will be retained as wildlife habitat. Because firewood will not be available until after harvesting operations are complete (at the earliest this will be fall 2015 or spring 2016) most wood available for firewood will already have some rot in it making it less desirable for firewood cutters. Due to these factors it is estimated that only about 50 cords of firewood will be available.

The value of the timber sale portion of the project at advertised rates (if harvested in 2015) is about \$189,111. One quarter of this value may contribute \$47,278 to Siskiyou County as timber receipts. Changes in lifestyles, values, attitudes and beliefs due to implementation of the Little Deer project are likely to be immeasurable due to the small amount of social effects from the project.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next five years were considered as noted in the cumulative effects of alternative 1. Adding the effects of alternative 3 to the social and economic effects of ongoing and reasonable foreseeable future projects will result in measureable effects but is not likely to result in substantial social or economic cumulative effects.

Comparison of Effects

Table S- 1: Comparison of social and economic effects of alternatives

Indicator	Alt. 1	Alt. 2 (2015 Harvest)	Alt. 2 (2016 Harvest)	Alt. 3 (2015 Harvest)	Alt. 3 (2016 Harvest)
Gross Revenue	\$0	\$3,366,337	\$649,220	\$3,024,596	\$583,310
Sawlog Vol./Acre	0 cu. ft./acre	862 cu. ft./acre	0 cu. ft./acre	862 cu. ft./acre	0 cu. ft./acre
Sawlog Volume	0 cu. ft.	1,495,142 cu. ft.	0 cu. ft.	1,343,386 cu. ft.	0 cu. ft.
Biomass Vol./Acre	0 cu. ft./acre	335 cu. ft./acre	576 cu. ft./acre	335 cu. ft./acre	576 cu. ft./acre
Biomass Volume	0 cu. ft.	580,510 cu. ft.	998,784 cu. ft.	521,588 cu. ft.	897,408 cu. ft.
Revenue to Purchaser	\$0	\$220,288	(\$-173,362)	\$189,157	(\$-164,350)
Employment created	0 jobs	32.8 jobs	14.3 jobs	30.5 jobs	13.9 jobs
Labor Income	\$0	\$1,222,834	\$231,194	\$1,100,638	\$208,829
Cords of Firewood	0	100	100	50	50
Acres of Timber Sale Treatment	0	1,734	1,734	1,558	1,558
Safety hazards abated in miles of roadside treatment	0 miles	12 miles	12 miles	12 miles	12 miles
Meets local social value for resource use	No	Yes	Somewhat	Yes	Somewhat

Compliance with law, regulation, policy, and the Forest Plan

Direction and guidance for this document includes the Forest Plan standards (27-1 through 27-9, page 4-67), the accompanying EIS (pages 130-139, and 159-165) and the Siskiyou County Comprehensive Land and Resource Management Plan. Laws that guide this assessment include the National Forest Management Act, the National Environmental Policy Act, USDA Civil

Rights Policy, and Executive Order 12898. All federal actions are required to consider the potential of disproportionate effects on minority and low-income populations.

All action alternatives are consistent with the Forest Plan, as noted on the Forest Plan checklist for this project, available on the project website at <http://www.fs.fed.us/nepa/fs-usda-pop.php/?project=45313>. All action alternatives will be consistent with the goals of the Siskiyou County Comprehensive Land and Resource Management Plan and comply with law, policy, and regulation.

Social Economic Report

Introduction

This document analyzes the possible effects of the proposed action and alternatives on the social aspects and economic values of local communities in Siskiyou County.

Proposed Action and Alternatives Analyzed

Chapter 2 of the Little Deer environmental assessment (EA) includes documentation of the purpose and need for the project, proposed action and alternatives.

Methodology

Detailed Methodology

Forest Service created models were used to analyze economic effects comparisons between alternatives of this proposed Little Deer project. These models assist in a cost-benefit socio-economic analysis based on the proposed treatments of each alternative. Two different economic models were used, these being the region 5 Timber Sale Economic Evaluation model and the Treatments for Restoration Economic Analysis Tool (TREAT) model (see Project file). The region 5 Timber Sale Economic Evaluation model calculates the approximate residual value of the timber sale to the purchaser after completion. The TREAT model calculates approximate present net value, which is shown as potential employment in number of jobs and the potential income these jobs may provide. These models will provide an effective comparison between project alternatives concerning economic resources. All calculations and models are a best estimate and may differ from actual results. Total treatment acres are likely to change before implementation. Inputs into these models include sawlog, biomass, and firewood volume, species distribution, and product sizes calculated from Common Stand Exams (CSE). The approximate volume per acre was calculated, per species and alternative, by district personnel using the CSE data. ArcGIS and local knowledge of the project area calculated inputs, such as: haul distance, skid distance, slope, and road and landing construction. All calculations and models are a best estimate and may differ from actual results. Log price pond values obtained using the Oregon Department of Forestry (ODF) Log Price Information website, and the locality Region 5 – Klamath Unit.

Due to the time sensitive nature of harvesting fire killed timber each action alternative (alternative 2 and alternative 3) will be economically analyzed twice. The first analysis will assume a harvest one year post fire in 2015 where the deterioration of the wood is not a factor yet. The second analysis will assume a harvest two years post fire in 2016. The two year post fire harvest analysis will use deterioration rates from PNW-GTR-292 (Lowel & Willits, 1992) and will assume all volume that is left will be chipped and sold as biomass.

Social and Civil Rights analysis is based on the quality of life of people affected by this project. Quality of life does depend on an economic element, for people to sustain themselves and their families, analyzed in the economic portions of this document.

Safety is a non-quantifiable analysis indicator that is estimated by the number of acres on which standing dead trees are removed by salvage harvest (for forest workers, firefighters and public users of KNF land) and by the number of miles of roadside hazard trees removed (for forest

workers, firefighters and public users of KNF land who drive through the project area). Safety from high intensity wildfires for residents of communities near the project area is also estimated by number of acres and miles of roadside treated in each alternative. Dead trees pose substantial safety hazards to the public as they deteriorate so delays in implementation also affect safety.

Analysis Indicators

Economic analysis indicators for this report are volume per acre of timber sale units, employment created, potential income to purchaser and employees, and cords of public firewood.

The social analysis indicator is the quality of life of people affected by this project. Elements of Quality of life are lifestyles, values, beliefs, and health. Recreation, hunting and similar activities bring tourism and business to local communities. The Little Deer project will not significantly affect recreation in the project area and thus, these activities will not be analyzed in this report. For additional analysis on recreation activities, refer to the recreation specialist report for this project.

Safety of forest workers, firefighters, and public users of KNF land will also be measured in this report. Safety will be measured by burned acres treated and miles of roadside hazard trees removed.

Spatial and Temporal Bounding of Analysis Area

The borders of Siskiyou County spatially bound both the social and economic analyses for this report. The reasoning for this bounding is that the project area and the closest mill that will take products created from this project are located within Siskiyou County. Roseburg Forest Products in Weed, California (Siskiyou County) has the shortest haul route of 25 miles from the Little Deer project. Timber Products near Yreka, California (Siskiyou County) has the second closest haul route of 40 miles. There are two facilities (Shasta Green Inc. and SPI) located in Burney, California, (Shasta County) that have the next closest haul distance of about 98 miles. Economic analysis modeling to other sawmills is unnecessary to effectively compare between alternatives. The haul route is not a major factor in comparison of alternatives. Haul route length will be nearly identical between project alternatives, and thus, the cost to haul per unit of wood volume is the same across alternatives and equally affects each alternative regardless of haul route. These communities' socio-economic values should not be significantly affected by this project.

The period this report considers is about five years, which approximates when all treatments will have taken place and products from treatments will have entered the wood products market.

Affected Environment

The closest communities to this project are the towns of Bray and Macdoel. Bray is about eight air miles east of the Little Deer project area, and Macdoel is about 12 air miles north east of the project area. The shortest haul routes for this project do not go through these communities, and thus, reduce the concern of dust and noise on the haul route. Dust will be mitigated in the timber sale contract provisions.

Deterioration of burned trees is an important factor in determining economic return of the project. Within stands that burned at medium and high severity, fire-killed and damaged trees are beginning to deteriorate. Several factors influence the rate of deterioration of fire-killed trees: tree species, species characteristics (such as bark thickness or depth of sapwood), tree diameter,

rate of growth, age, local site conditions, severity of the fire, and time of year the burn took place (Lowel & Willits, 1992). Bark provides a protective covering for the cambial layer in a tree. Trees with thinner bark are more susceptible to fire damage and tend to deteriorate more rapidly than those with thicker bark. Sapwood in all species is susceptible to decay. It is the first merchantable part of fire-killed or damaged trees to be degraded by insects, and stain and decay fungi. Large diameter trees generally decay slower than small diameter trees, and older trees generally decay slower than young trees. Less sapwood volume and decreased growth rates within the sapwood are partially the reason. When the effects of diameter and age are combined, a larger diameter tree will deteriorate more slowly than a smaller diameter tree if the difference is a result of age and not rate of growth. A faster rate of growth may offset this advantage of a large diameter tree (Lowel & Willits, 1992).

Insects (primarily beetles), stain and decay fungi, and weather all act as deterioration agents in fire-killed timber. Insect activity usually precedes fungal activity and provides a mechanism for introducing fungi that accelerate sapwood deterioration. Fungal decay, once introduced, will deteriorate the sapwood ahead of any insect damage. Decay causes reductions in strength properties of wood, rendering the wood useless from a structural standpoint, and thus decreasing useable log volume. Insects such as ambrosia beetles and roundheaded borers, among others, introduce stain fungi and create boring holes that destroy the structural integrity of wood. In addition to the deterioration caused by stain, decay, and insects, weather checking also contributes to loss. Weather checking is cracks that form vertically in the wood as the tree dries out. With time, the cracks go deeper into the log. In the portion of the log that is checking, the log is unusable for manufacturing boards.

The tables and figures in this report help display the statistics of the people that make up Siskiyou County, comparing them against California and the United States. The figures also display overall employment, unemployment and timber industry employment trends of the County. These tables and figures were created using the Economic Profile System – Human Dimensions Toolbox, this software is produced by Headwaters Economics. Economic Profile System – Human Dimensions Toolbox uses published statistics from federal data sources, including the Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce; Bureau of Labor Statistics, U.S. Department of Labor; and others.

Table 1: Population statistics of Siskiyou County

Population by Race, 2012*	Siskiyou County, CA	California	United States
Total Population	44,673	37,325,068	309,138,711
Hispanic or Latino	4,652	14,024,109	50,545,275
Not Hispanic or Latino	40,021	23,300,959	258,593,436
White	35,501	14,977,510	196,903,968
Black or African American	541	2,152,554	37,786,591
American Indian	1,206	147,899	2,050,766
Asian	601	4,854,863	14,692,794
Native Hawaiian & Pacific Is.	109	134,423	480,063
Some other race	33	86,389	616,191
Two or more races	2,030	947,321	6,063,063
Percent of Total	Siskiyou County, CA	California	United States
Hispanic or Latino	10.4%	37.6%	16.4%
Not Hispanic or Latino	89.6%	62.4%	83.6%
White	79.5%	40.1%	63.7%
Black or African American	1.2%	5.8%	12.2%
American Indian	2.7%	0.4%	0.7%
Asian	1.3%	13.0%	4.8%
Native Hawaiian & Pacific Is.	0.2%	0.4%	0.2%
Some other race	0.1%	0.2%	0.2%
Two or more races	4.5%	2.5%	2.0%

* The data in this table are calculated by ACS using annual surveys conducted during 2008-2012 and are representative of average characteristics during this period. Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C. Table created using EPS-HDT.

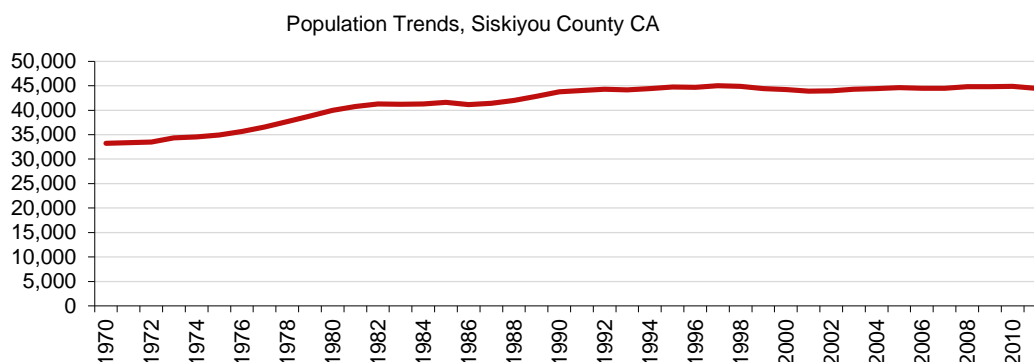
The demographic of Siskiyou County consists of Caucasian, African American, American Indian, Hispanic, Asian, Native Hawaiian or Pacific Islander, and other races (Table 1). The American Indian population is greater in percentage when compared to California (Table 1). The Klamath National Forest must pay careful attention to the potential impacts of management actions on American Indians.

Table 2: Demographic Statistics of Siskiyou County

Economic Indicators		Siskiyou County	California	United States
Demographics	Population Growth (% change, 2000-2012*)	0.8%	10.2%	9.8%
	Median Age (2012*)	47.0	35.2	37.2
	Percent Population White Alone (2012*)	86.9%	62.3%	74.2%
	Percent Population Hispanic or Latino (2012*)	10.4%	37.6%	16.4%
	Percent Population American Indian or Alaska Native (2012*)	2.8%	0.8%	0.8%
	Percent of Population 'Baby Boomers' (2012*)	35.1%	26.4%	28.1%
Income	Median Household Income (2012*)	\$37,948	\$61,400	\$53,046
	Per Capita Income (2012*)	\$22,304	\$29,551	\$28,051
	Percent Individuals Below Poverty (2012*)	19.6%	15.3%	14.9%
	Percent Families Below Poverty (2012*)	15.7%	11.5%	10.9%
	Percent of Households with Retirement and Social Security Income (2012*)	63.4%	40.3%	46.0%
	Percent of Households with Public Assistance Income (2012*)	26.2%	16.5%	18.7%

* The data in this table are calculated by ACS using annual surveys conducted during 2008-2012 and are representative of average characteristics during this period. Data Sources: U.S. Department of Commerce. 2013. Census Bureau, American Community Survey Office, Washington, D.C. Table created using EPS-HDT.

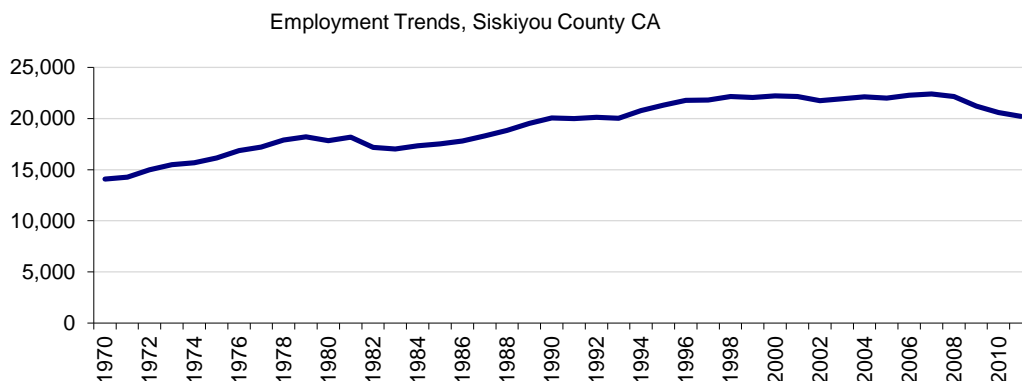
Siskiyou county demographics are notably different in many categories when compared against California and the United States (Table 2). 19.6 percent of individuals and 15.7 percent of Siskiyou County families were below the poverty line; this is greater than California (Table 2). The project decision must carefully assess the effects on low-income populations in Siskiyou County.



Data Sources: U.S. Department of Commerce. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30. Figure created using EPS-HDT.

Figure 1: Population Trend of Siskiyou County

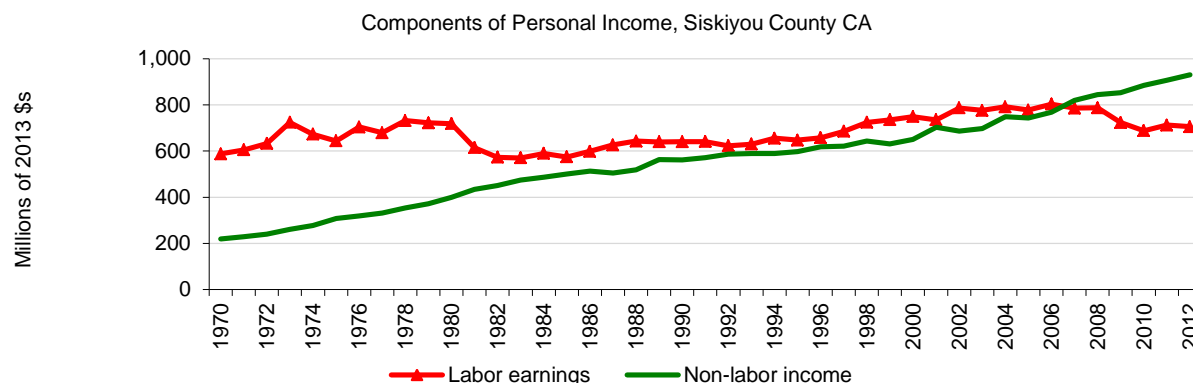
From 1970 to 2011, Siskiyou County's population grew from 33,258 to 44,507 people, a 34percent increase, but since 1990, the population has been relatively steady, staying around 44,000 people (Figure 1).



Data Sources: U.S. Department of Commerce. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Table CA30. Figure created using EPS-HDT.

Figure 2: Employment Trend of Siskiyou County

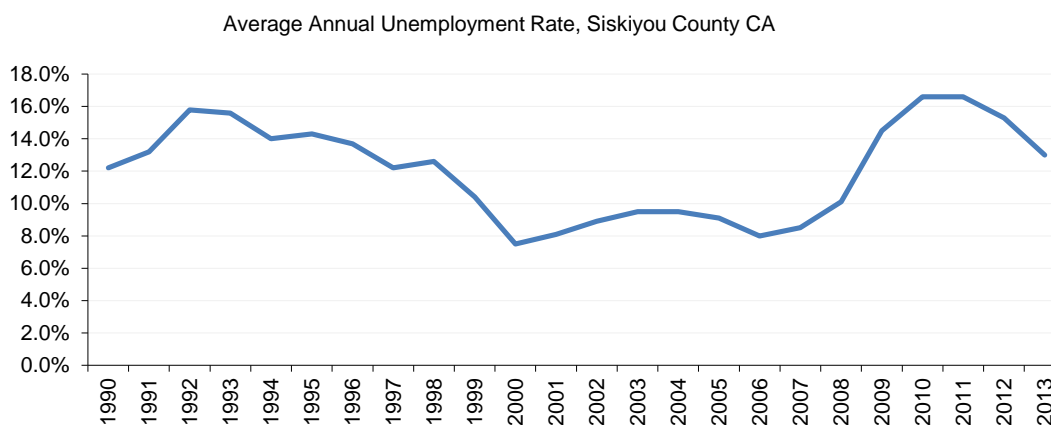
From 1970 to 2011, employment grew from 14,085 to 20,224 jobs, a 44 percent increase (Figure 2).



Data Sources: U.S. Department of Commerce. Multiple Years (See Data Sources & Methods page). Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. Tables CA05 & CA05N. Figure created using EPS-HDT.

Figure 3: Personal Income of Siskiyou County

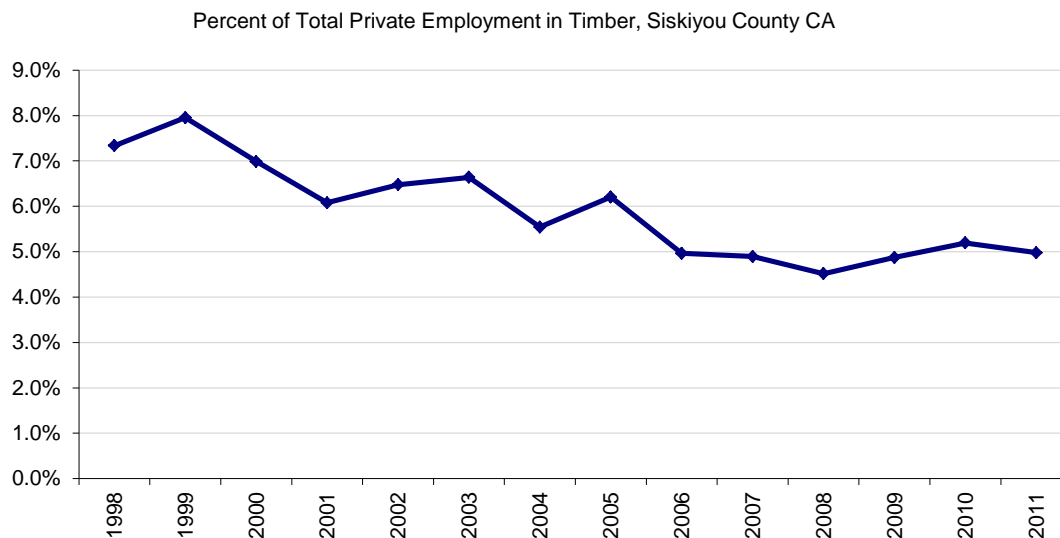
Personal income consists of labor and non-labor income. Non-labor income includes dividends, interest, rent and transfer payments (payments from governments to individuals). Labor income in Siskiyou County has held relatively constant since 1970. Non-labor income has been on a steady rise since 1970 (Figure 3).



Data Sources: U.S. Department of Labor. 2013. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C. Figure created using EPS-HDT.

Figure 4: Unemployment Rate of Siskiyou County

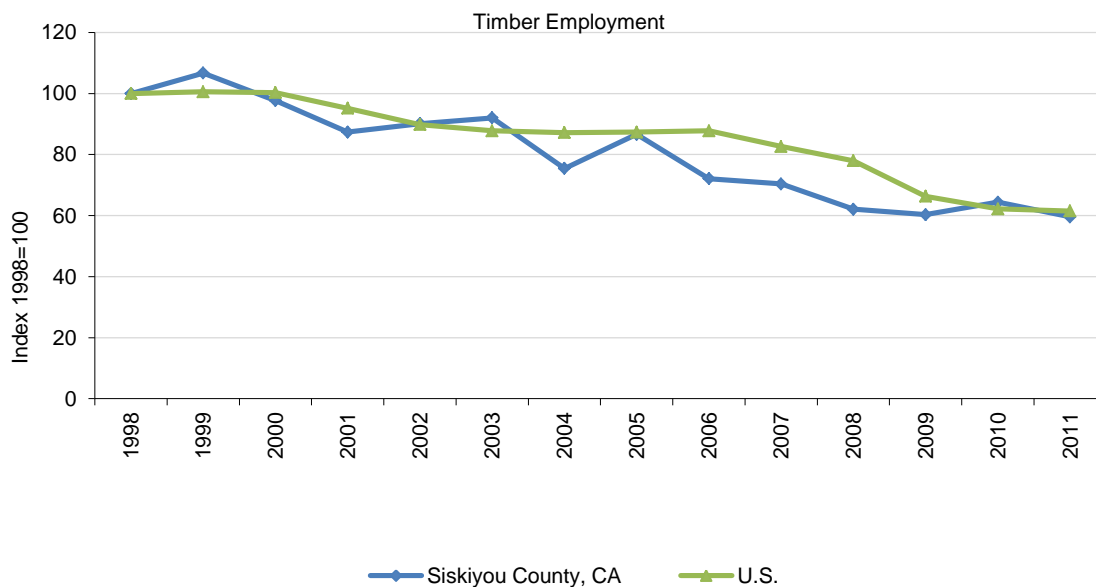
Since 1990, the annual unemployment rate ranged from a low of 7.5 percent in 2000 to a high of 16.6 percent in 2010 (Figure 4). This unemployment rate approximately followed the national trend over the same period, although Siskiyou County unemployment rates trended to be a few percent higher than the rest of the United States.



Data Sources: U.S. Department of Commerce. 2013. Census Bureau, County Business Patterns, Washington, D.C. Figure created using EPS-HDT.

Figure 5: Timber Employment of Siskiyou County

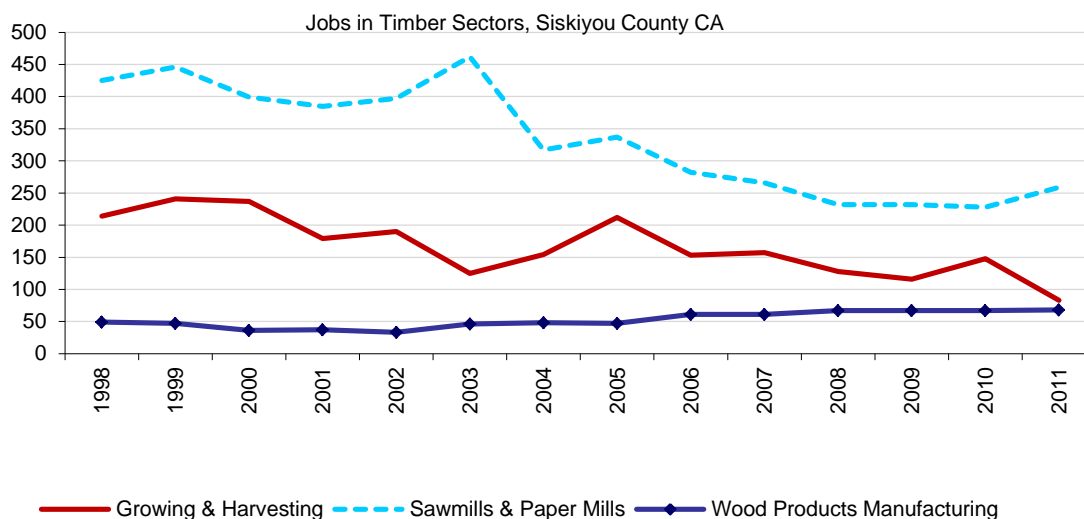
In 1998, timber represented 7.33 percent of total employment of Siskiyou County. By 2011, timber represented 4.98 percent of total employment (Figure 5).



Data Sources: U.S. Department of Commerce. 2013. Census Bureau, County Business Patterns, Washington, D.C. Figure created using EPS-HDT. This graph shows the change in timber employment for Siskiyou County, CA and the United States. The information is indexed (1998=100) so that data from geographies with different size economies can be compared.

Figure 6: Timber Employment of Siskiyou County versus USA Timber Employment

The steady downward trend of timber employment in Siskiyou County mirrors the trend of the whole United States (Figure 6).



Data Sources: U.S. Department of Commerce. 2013. Census Bureau, County Business Patterns, Washington, D.C. Figure created using EPS-HDT.

Figure 7: Jobs in Timber Sectors of Siskiyou County

From 1998 to 2011, growing & harvesting shrank from 214 to 83 jobs, a 61.2 percent decrease, and sawmills shrank from 425 to 259 jobs, a 39.1 percent decrease (Figure 7). During the same period, wood products manufacturing grew from 49 to 68 jobs, a 38.8 percent increase. These figures added together show 688 timber jobs in 1998, and then in 2011 this has declined 40 percent to 410 jobs.

Table 3: Land Ownership of Siskiyou County

Land Ownership (Acres)	Siskiyou County, CA	California	United States
Total Area	4,058,831	100,387,592	2,286,279,509
Private Lands	1,500,710	46,959,906	1,341,224,948
Conservation Easement	3,489	790,227	14,841,267
Federal Lands	2,529,270	48,698,189	658,155,051
Forest Service	2,330,388	20,620,161	193,059,372
BLM	82,067	15,577,435	253,918,202
National Park Service	44,160	7,717,178	78,818,664
Military	n/a	4,139,891	25,028,820
Other Federal	72,655	643,524	107,329,993
State Lands	27,073	3,091,389	192,517,204
State Trust Lands*	1,032	304,960	42,498,598
Other State	26,041	2,786,429	150,018,606
Tribal Lands	1,321	664,434	90,323,859
City, County, Other	457	973,672	4,058,428
Percent of Total	Siskiyou County, CA	California	United States
Private Lands	37.0%	46.8%	58.7%
Conservation Easement	0.1%	0.8%	0.6%
Federal Lands	62.3%	48.5%	28.8%

Forest Service	57.4%	20.5%	8.4%
BLM	2.0%	15.5%	11.1%
National Park Service	1.1%	7.7%	3.4%
Military	n/a	4.1%	1.1%
Other Federal	1.8%	0.6%	4.7%
State Lands	0.7%	3.1%	8.4%
State Trust Lands*	0.0%	0.3%	1.9%
Other State	0.6%	2.8%	6.6%
Tribal Lands	0.0%	0.7%	4.0%
City, County, Other	0.0%	1.0%	0.2%
Data Sources: U.S. Geological Survey, Gap Analysis Program. 2012. Protected Areas Database of the United States (PADUS) version 1.3. Table created using EPS-HDT.			

“Although National Forests account for more than 60 percent of the county’s land base, the share of the county’s timber harvest off federal lands has decreased from roughly 50 percent to less than 20 percent since the northern spotted owl was listed as threatened in 1990. Since 1990, the number of wood products manufacturing facilities in the county has declined by half (Dennis, 2012).”

Lifestyles, attitudes, beliefs and values of Siskiyou County residents are similar to those of rural residents in other counties in the western United States. Many local residents depend on the environment to support them, and this in turn affects their lifestyles and attitudes. “The Code of the West: the Realities of Rural Living” (Siskiyou County, 2005) sheds light on some of the conventions of living in Siskiyou County. “The right to be rural” is fundamental among residents. Self-reliance, interdependence between neighbors, and close interaction with the outdoors are important benefits of living in Siskiyou County. This theme directly relates to the use of KNF resources, and the desire among residents to see the Forest resources used efficiently to economically benefit the county.

It is useful to consider economics as a tool to achieve the management objectives of the project. Considering economics allows the government more efficiency in implementing and accomplishing the proposed action. The desired socioeconomic condition of the Forest (Forest Plan, Chapter 4, page 9) will be a predictable and sustainable level of timber outputs, providing greater stability to local communities, and for local communities to have a broadened economic base to support quality of life.

Environmental Consequences

Alternative 1

Direct Effects and Indirect Effects

Under this alternative no project treatment activities will occur. The social effects of taking no action are a continuation of the current situation in terms of distribution of jobs among racial and ethnic groups. The lifestyles, values and beliefs of the people in Siskiyou County will continue on the same trend if no project is proposed. Logging companies support jobs and income, and the timber serves as an important input to production for local mills. Zero cords of firewood will be available in this alternative.

The timber industry has been on a downward trend (Figures 5 to 7) in Siskiyou County since the late 1990’s. Reduction of timber sales from the Forest could continue without manufacturing

facilities, within a reasonable haul distance, to process raw forest materials. Implementation of alternative 1 will neither support nor add to the demand for timber industry jobs and its related industries employment

The economic direct and indirect effect of alternative 1 will not contribute to timber employment jobs, which have declined 40 percent from 1998 to 2011 (U.S. Department of Commerce 2013, Census Bureau, County Business Patterns, Washington, D.C.). The continuation of the county's economic situation is dependent upon a continuous supply of raw material to manufacture products.

The effect on safety of implementing alternative 1 will be that zero burned acres will be treated and zero miles of roadside hazard trees will be removed. This will increase the chance of a forest worker, firefighter, or public user of Forest land being injured by a fire killed or damaged tree as time goes on and the trees deteriorate and fall down. Because no roadside hazard trees will be removed in this alternative, travel on roads within the fire area will be hindered year after year due to new trees falling into the roads. This poses a safety risk to both USFS personnel and public users who drive these roads. Fallen trees in the road may also delay the response of firefighting personnel to new wildland fires in and around the Little Deer area. Safety for Siskiyou County as a whole will decrease slightly as the Little Deer project area only represents 0.135% of the Siskiyou County land base.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next 5 years were considered. Future foreseeable actions on National Forest System land within Siskiyou County are available on the Forest Service Schedule of Proposed Actions website: <http://www.fs.fed.us/sopa/>. These projects include the Big Pony, Ruff Grouse, Butte Mt., Landlord, Pumice, Six Shooter, and Harlin projects on the Goosenest Ranger District of the Klamath National Forest, the Salmon Salvage, Eagle Springs Hazard, Westside Salvage, Two Bit, Jess, Hotelling Roadside Hazard, Crawford, McCollins LSR, Eastend, Lovers Canyon, Music LSR, Craggy, and Lover's Canyon projects on the westside of the Klamath National Forest, and the Harris project on the McCloud Ranger District of the Shasta Trinity National Forest. A list of planned Timber Harvest Plans for California can be found at: http://www.fire.ca.gov/resource_mgt/resource_mgt_forestpractice_thpstatus.php/. There are currently 11 Timber Harvest Plans listed for Siskiyou County.

Implementation of alternative 1 will neither support nor add to the demand for timber industry jobs and its related industries employment. Adding the social effects of these projects to the effects of alternative 1 will not result in substantial social or economic cumulative effects.

Alternative 2

Direct and Indirect Effects

Timber volume produced from a timber sale is a quantifiable direct effect from project actions.

Table 4: Alternative 2 Volume per Acre

Alternative 2 Timber Sale Volume per Acre	2015 Harvest	2016 Harvest
Sawlog Cubic Feet Volume per Acre	862	0

Biomass Cubic Feet Volume per Acre	335	576
Total Cubic Feet Volume per Acre	1197	576

Volume per acre is a major factor in the economics of a timber sale. The logging costs of stump to truck are much more than the cost of truck to mill. The higher the volume per acre, the more efficient a logging operation is at producing volume for the same amount of fuel and equipment use. Alternative 2, if harvested in 2015, will average about 862 cubic feet per acre in sawlogs and 335 cubic feet per acre in biomass. In 2016 this harvest will average zero cubic feet per acre in sawlogs and 576 cubic feet per acre in biomass (Table 4).

Table 5 Alternative 2 Timber Sale Volume

Alternative 2 Timber Sale Volume CCF	2015 Harvest	2016 Harvest
Total Biomass CCF	5805	9988
Total Sawlog CCF	14951	0
Total All Volume CCF	20757	9988
Biomass % of Total	72	100
Sawlog % of Total	28	0

Sawlog to biomass proportions of a timber sale's volume are also a major economic factor. Alternative 2, if harvested in 2015, shows an approximate timber sale volume of 20757 hundred cubic feet, with about 28 percent of this volume is biomass. Alternative 2, if harvested in 2016, shows an approximate timber sale volume of 9988 hundred cubic feet, with 100 percent of this volume is biomass (Table 5).



Cost Centers Evaluation & Summary

This screen examines the monetary aspects of the UNIT SUMMARY table in more depth. Reducing and/or eliminating one or more of these factors could be significant in reducing costs and deposits when the sale is deficit or has little value. This analysis is based on a sale-as-a-whole basis. Click on the "return to unit summary" button to return to the summary table. Do "sensitivity analysis" to see results and differences.

[return to unit summary](#)
[print tables](#)


Base - Ad Evaluation		KV - Base Evaluation		Road Cost Evaluation		Haul Cost Evaluation		Sale Value Evaluation	
Attribute	Rate/ccf	Attribute	Rate/ccf	Attribute	Total Cost	Attribute	Total Cost	Attribute	Total Value
base rate	0.87	base rate	0.87	cons/recons (includes engineering services)	0.00	log haul cost	359,718.81	ind. ad rate	220,231.77
ad rate	10.61	kv rate	0.00					value needed to bring sale to base rates	0.00
ratio	0.082	% kv	0.0%						
Studies in some regions have shown a trend of <u>more</u> bids received from prospective bidders when the base rate to advertised rate ratio is <u>less than</u> 0.1000 (i.e. sale has good value). <i>If the ad rate and base rates are equal, the sale is <u>deficit</u> (i.e. ratio equal to 1.000).</i>		If % KV is 100.0%, then base rates have been <u>increased</u> in order to cover the essential or necessary KV needs. A reduction in essential or necessary KV might be in order <u>especially</u> if the advertised rate equals the base rate then sale is considered deficit and ratio to left is equal to 1.000.		High specified road costs (i.e. construction and/or reconstruction, engineering services) can make sales less desirable. Look for ways to lower these costs such as lower road standards, use lower cost temporary roads, use native surface roads, summer haul, alternate access, and/or different logging systems.		Log haul costs can be a significant factor in the "bidability" of a sale. This is especially true in areas where processing facilities are scarce (i.e. Southern California). Market the sale to the nearest appropriate facility, explore shorter haul routes, and/or optimize road network and haul route for lowest cost.		Displayed is the estimated value needed to bring the sale to the value at base rates and cover KV if the sale is projected to be deficit (as currently designed). This value can be "made up" by reducing costs or raising the log values. <i>If the value above is zero (0), the sale is <u>not</u> deficit.</i>	
Deposit - Contractual Evaluation				Costly deposits that potential bidders must make tends to reduce the potential for the sale to receive bids. Especially if the sale is nearly deficit or the ad rate close to base rate (i.e. potential bidders have very little margin to make a profit, discourages bidding). Often times the purchaser can do the BD needed work cheaper .		Logging Cost Evaluation		Stump-to-truck costs are usually the most significant cost. Explore alternative (less expensive) systems, increase piece sizes, shorten yard/skid distances, raise vol/ac, and/or try unit packaging scenarios.	
Attribute	Rate/ccf	Total Cost	Attribute			Total Cost			
bd/erosion/etc	0.00	0.00	stump-to-truck			2,453,829.69			
road maint	0.00	0.00	temp roads			46,495.68			
total	0.00	0.00	total			2,500,325.37			

Total costs (includes p&r, comp. factor) = 3,146,049

Gross revenue, log prices = 3,366,337

Net revenue = 220,288

Revenue/cost ratio = 1.07

Net revenue minus KV = 220,288

<<the sale-as-a-whole is projected to be ECONOMICAL>>

Sale Economic Evaluation v3.0 – Little Deer Alternative 2 2015 Harvest

Figure 8: Alternative 2 2015 Harvest Timber Sale Economics Evaluation



Cost Centers Evaluation & Summary

This screen examines the monetary aspects of the UNIT SUMMARY table in more depth. Reducing and/or eliminating one or more of these factors could be significant in reducing costs and deposits when the sale is deficit or has little value. This analysis is based on a **sale-as-a-whole** basis. Click on the "return to unit summary" button to return to the summary table. Do "sensitivity analysis" to see results and differences.

[return to unit summary](#)
[print tables](#)


Base - Ad Evaluation		KV - Base Evaluation		Road Cost Evaluation		Haul Cost Evaluation		Sale Value Evaluation		
Attribute	Rate/ccf	Attribute	Rate/ccf	Attribute	Total Cost	Attribute	Total Cost	Attribute	Total Value	
base rate	0.25	base rate	0.25	cons/recons (includes engineering services)	0.00	log haul cost	134,038.96	ind. ad rate	-173,391.68	
ad rate	0.25	kv rate	0.00					value needed to bring sale to base rates	175,888.68	
ratio	1.000	% kv	0.0%							
Studies in some regions have shown a trend of <u>more</u> bids received from prospective bidders when the base rate to advertised rate ratio is <u>less</u> than 0.1000 (i.e. sale has good value). <i>If the ad rate and base rates are equal, the sale is <u>deficit</u> (i.e. ratio equal to 1.000).</i>		If % KV is 100.0%, then base rates have been <u>increased</u> in order to cover the essential or necessary KV needs. A reduction in essential or necessary KV might be in order <u>especially</u> if the advertised rate equals the base rate then sale is considered deficit and ratio to left is equal to 1.000.		High specified road costs (i.e. construction and/or reconstruction, engineering services) can make sales less desirable. Look for ways to lower these costs such as lower road standards, use lower cost temporary roads, use native surface roads, summer haul, alternate access, and/or different logging systems.		Log haul costs can be a significant factor in the "bidability" of a sale. This is especially true in areas where processing facilities are scarce (i.e. Southern California). Market the sale to the nearest appropriate facility, explore shorter haul routes, and/or optimize road network and haul route for lowest cost.		Displayed is the estimated value needed to bring the sale to the value at base rates and cover KV if the sale is projected to be deficit (as currently designed). This value can be "made up" by reducing costs or raising the log values. <i>If the value above is zero (0), the sale is <u>not</u> deficit.</i>		
Deposit - Contractual Evaluation			Costly deposits that potential bidders must make tends to reduce the potential for the sale to receive bids. Especially if the sale is nearly deficit or the ad rate close to base rate (i.e. potential bidders have very little margin to make a profit, discourages bidding). Often times the purchaser can do the BD needed work cheaper .			Logging Cost Evaluation			Stump-to-truck costs are usually the most significant cost. Explore alternative (less expensive) systems, increase piece sizes, shorten yard/skid distances, raise vol/ac, and/or try unit packaging scenarios.	
Attribute	Rate/ccf	Total Cost				Attribute	Total Cost			
bd/erosion/etc	0.00	0.00				stump-to-truck	567,318.40			
road maint	0.00	0.00				temp roads	46,444.20			
total	0.00	0.00				total	613,762.60			

Total costs (includes p&r, comp. factor) = **822,582**Gross revenue, log prices = **649,220**Net revenue = **(173,362)**Revenue/cost ratio = **0.79**Net revenue minus KV = **(173,362)**

<<the sale-as-a-whole is projected to be DEFICIT>>

Sale Economic Evaluation v3.0 – Little Deer Alternative 2 2016 Harvest

Figure 9: Alternative 2 2016 Harvest Timber Sale Economics Evaluation

Alternative 2, if harvested in 2015, shows total gross revenue of \$3,336,337, with a total cost of \$3,146,049, which leaves approximate revenue to the purchaser of \$220,288. Alternative 2, if harvested in 2016, shows total gross revenue of \$649,220, with a total cost of \$822,582, which leaves an approximate loss of revenue to the purchaser of \$(-173,362). This potential revenue includes a 10 percent profit margin added in.

Table 6: Alternative 2 2015 Harvest Jobs and Labor Income

	Employment (# Part and Full-time Jobs)			Labor Inc (2010 \$)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total
Thinning-Biomass: Commercial Forest Products						
Logging	4.9	5.8	10.6	236,897	293,660	530,557
Saw mills	0.3	0.5	0.8	15,501	24,044	39,544
Plywood and Veneer Softwood	3.4	3.8	7.1	182,038	220,422	402,460
Plywood and Veneer Hardwood	-	-	-	-	-	-
Oriented Strand Board (OSB)	-	-	-	-	-	-
Mills Processing Roundwood Pulp Wood	-	-	-	-	-	-
Other Timber Products	-	-	-	-	-	-
Facilities Processing Residue From Saw Mills	0.1	0.1	0.2	4,340	6,538	10,878
Facilities Processing Residue From Plywood/Veneer	1.1	2.6	3.7	84,951	127,953	212,914
Biomass--Cogen	0.1	0.1	0.2	9,761	5,287	15,048
Commercial Firewood	0.0	0.0	0.0	\$0	\$0	\$0
Total Commercial Forest Products	9.8	12.9	22.7	533,488	677,914	1,211,402
Other Project Activities						
Facilities, Watershed, Roads and Trails	0.0	0.0	0.0	\$0	\$0	\$0
Abandoned Mine Lands	0.0	0.0	0.0	\$0	\$0	\$0
Ecosystem Restoration, Hazardous Fuels, and Forest Health	0.0	0.0	0.0	\$0	\$0	\$0
Contracted Monitoring	0.0	0.0	0.0	\$0	\$0	\$0
FS Implementation and Monitoring	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total Other Project Activities	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total All Impacts	19.8	12.9	32.8	\$541,644	\$681,190	\$1,222,834

TREAT v7-12-10 – Little Deer Alternative 2 2015 Harvest

Table 7: Alternative 2 2015 Harvest Jobs and Labor Income

	Employment (# Part and Full-time Jobs)			Labor Inc (2010 \$)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total
Thinning-Biomass: Commercial Forest Products						
Logging	1.8	2.1	3.9	86,549	107,287	193,836
Saw mills	-	-	-	-	-	-
Plywood and Veneer Softwood	-	-	-	-	-	-
Plywood and Veneer Hardwood	-	-	-	-	-	-
Oriented Strand Board (OSB)	-	-	-	-	-	-
Mills Processing Roundwood Pulp Wood	-	-	-	-	-	-
Other Timber Products	-	-	-	-	-	-
Facilities Processing Residue From Saw Mills	-	-	-	-	-	-
Facilities Processing Residue From Plywood/Veneer	-	-	-	-	-	-
Biomass--Cogen	0.2	0.1	0.3	16,816	9,109	25,926
Commercial Firewood	0.0	0.0	0.0	\$0	\$0	\$0
Total Commercial Forest Products	2.0	2.2	4.2	103,365	116,397	219,762
Other Project Activities						
Facilities, Watershed, Roads and Trails	0.0	0.0	0.0	\$0	\$0	\$0
Abandoned Mine Lands	0.0	0.0	0.0	\$0	\$0	\$0
Ecosystem Restoration, Hazardous Fuels, and Forest Health	0.0	0.0	0.0	\$0	\$0	\$0
Contracted Monitoring	0.0	0.0	0.0	\$0	\$0	\$0
FS Implementation and Monitoring	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total Other Project Activities	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total All Impacts	12.0	2.3	14.3	\$111,521	\$119,673	\$231,194

TREAT v7-12-10 – Little Deer Alternative 2 2015 Harvest

Alternative 2, if harvested in 2015, will result in approximately 32.8 total annual jobs, with equal distribution of jobs among racial and ethnic groups (Table 6). Direct employment from the project is 19.8 jobs and 12.9 indirect/induced jobs. This results in a direct labor income of \$541,644, and an indirect/induced labor income of \$681,190, totaling \$1,222,834 annual labor income. Alternative 2, if harvested in 2016, will result in approximately 14.3 total annual jobs, with equal distribution of jobs among racial and ethnic groups (Table 7). Direct employment from the project is 12 jobs and 2.3 indirect/induced jobs. This results in a direct labor income of \$111,521, and an indirect/induced labor income of \$119,673, totaling \$231,194 annual labor income.

The effect on safety of implementing alternative 2 will be that 1821 burned acres will be treated and about 12 miles of roadside hazard trees will be removed. Safety for Siskiyou County as a whole will increase slightly as the Little Deer project area only represents 0.135% of the Siskiyou County land base.

Public firewood cutting may be opened (after timber harvest) within areas analyzed for timber harvest in alternative 2. One 87 acre unit will not be commercially harvested and instead be opened exclusively for public firewood. However the amount of firewood available will be low for multiple reasons. Ponderosa pine, the main species in the project area, is not a desired species for firewood. Large diameter downed wood will be left as coarse woody debris and large snags will be retained as wildlife habitat. Because firewood will not be available until after harvesting operations are complete (at the earliest this will be fall 2015 or spring 2016) most wood available for firewood will already have some rot in it making it less desirable for firewood cutters. Due to these factors it is estimated that only about 100 cords of firewood will be available.

Contractors and purchasers often use a local work force for logging and hauling. This project will help slow the decline in timber employment in Siskiyou County. The firewood areas in this alternative will contribute to the 4,000 cord yearly demand of surrounding communities from the Goosenest Ranger District. The value of this timber sale at advertised rates (if harvested in 2015) is about \$214,412 and one quarter of this value may contribute \$53,603 to Siskiyou County as timber receipts. Changes in lifestyles, values, attitudes and beliefs due to implementation of the Little Deer project are likely to be immeasurable due to the small amount of social effects from the project.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next 5 years were considered as noted in the cumulative effects of alternative 1. Adding the effects of alternative 2 to the social and economic effects of ongoing and reasonable foreseeable future projects will result in measureable effects but is not likely to result in substantial social or economic cumulative effects.

Alternative 3

Direct and Indirect Effects

Table 8: Alternative 3 Volume per Acre

Alternative 3 Timber Sale Volume per Acre	2015 Harvest	2016 Harvest
Sawlog Cubic Feet Volume per Acre	862	0
Biomass Cubic Feet Volume per Acre	335	576
Total Cubic Feet Volume per Acre	1197	576

Volume per acre is a major factor in the economics of a timber sale. The logging costs of stump to truck are much more than the cost of truck to mill. The higher the volume per acre, the more efficient a logging operation is at producing volume for the same amount of fuel and equipment use. Alternative 3, if harvested in 2015, will average about 862 cubic feet per acre in sawlogs and 335 cubic feet per acre in biomass. Alternative 3, if harvested in 2016, will average zero cubic feet per acre in sawlogs and 576 cubic feet per acre in biomass (Table 8).

Table 9: Alternative 3 Timber Sale Volume

Alternative 3 Timber Sale Volume CCF	2015 Harvest	2016 Harvest
Total Biomass CCF	5216	8974
Total Sawlog CCF	13434	0
Total All Volume CCF	18650	8974
Biomass % of Total	72	100
Sawlog % of Total	28	0

Sawlog to biomass proportions of a timber sale's volume are also a major economic factor. Alternative 3, if harvested in 2015, shows an approximate timber sale volume of 18650 hundred cubic feet, with about 28 percent of this volume is biomass. Alternative three, if harvested in 2016, shows an approximate timber sale volume of 8974 hundred cubic feet, with 100 percent of this volume is biomass (Table 9).



Cost Centers Evaluation & Summary

This screen examines the monetary aspects of the UNIT SUMMARY table in more depth. Reducing and/or eliminating one or more of these factors could be significant in reducing costs and deposits when the sale is deficit or has little value. This analysis is based on a sale-as-a-whole basis. Click on the "return to unit summary" button to return to the summary table. Do "sensitivity analysis" to see results and differences.

[return to unit summary](#)
[print tables](#)


Base - Ad Evaluation		KV - Base Evaluation		Road Cost Evaluation		Haul Cost Evaluation		Sale Value Evaluation	
Attribute	Rate/ccf	Attribute	Rate/ccf	Attribute	Total Cost	Attribute	Total Cost	Attribute	Total Value
base rate	0.87	base rate	0.87	cons/recons (includes engineering services)	0.00	log haul cost	323,204.50	ind. ad rate	189,111.00
ad rate	10.14	kv rate	0.00					value needed to bring sale to base rates	0.00
ratio	0.086	% kv	0.0%						
Studies in some regions have shown a trend of <u>more</u> bids received from prospective bidders when the base rate to advertised rate ratio is <u>less than</u> 0.1000 (i.e. sale has good value). <u>If the ad rate and base rates are equal, the sale is <u>deficit</u> (i.e. ratio equal to 1.000).</u>		If % KV is 100.0%, then base rates have been <u>increased</u> in order to cover the essential or necessary KV needs. A reduction in essential or necessary KV might be in order <u>especially</u> if the advertised rate equals the base rate then sale is considered deficit and ratio to left is equal to 1.000.		High specified road costs (i.e. construction and/or reconstruction, engineering services) can make sales less desirable. Look for ways to lower these costs such as lower road standards, use lower cost temporary roads, use native surface roads, summer haul, alternate access, and/or different logging systems.		Log haul costs can be a significant factor in the "bidability" of a sale. This is especially true in areas where processing facilities are scarce (i.e. Southern California). Market the sale to the nearest appropriate facility, explore shorter haul routes, and/or optimize road network and haul route for lowest cost.		Displayed is the estimated value needed to bring the sale to the value at base rates and cover KV if the sale is projected to be deficit (as currently designed). This value can be "made up" by reducing costs or raising the log values. <u>If the value above is zero (0), the sale is <u>not</u> deficit.</u>	
Deposit - Contractural Evaluation			Costly deposits that potential bidders must make tends to reduce the potential for the sale to receive bids. Especially if the sale is nearly deficit or the ad rate close to base rate (i.e. potential bidders have very little margin to make a profit, discourages bidding). Often times the purchaser can do the BD needed work cheaper .			Logging Cost Evaluation		Stump p-to-truck costs are usually the most significant cost. Explore alternative (less expensive) systems, increase piece sizes, shorten yard/skid distances, raise vol/ac, and/or try unit packaging scenerios.	
Attribute	Rate/ccf	Total Cost				Attribute	Total Cost		
bd/erosion/etc	0.00	0.00				stump-to-truck	2,209,707.00		
road maint	0.00	0.00				temp roads	44,760.00		
total	0.00	0.00				total	2,254,467.00		

Total costs (includes p&r, comp. factor) = **2,835,439**

Gross revenue, log prices = **3,024,596**

Net revenue = **189,157**

Revenue/cost ratio = **1.07**

Net revenue minus KV = **189,157**

<<the sale-as-a-whole is projected to be ECONOMICAL>>

Sale Economic Evaluation v3.0 – Little Deer Alternative 3 2015 Harvest

Figure 10: Alternative 3 2015 Harvest Timber Sale Economic Evaluation



Cost Centers Evaluation & Summary

This screen examines the monetary aspects of the UNIT SUMMARY table in more depth. Reducing and/or eliminating one or more of these factors could be significant in reducing costs and deposits when the sale is deficit or has little value. This analysis is based on a **sale-as-a-whole** basis. Click on the "return to unit summary" button to return to the summary table. Do "sensitivity analysis" to see results and differences.

[return to unit summary](#)
[print tables](#)


Base - Ad Evaluation		KV - Base Evaluation		Road Cost Evaluation		Haul Cost Evaluation		Sale Value Evaluation	
Attribute	Rate/ccf	Attribute	Rate/ccf	Attribute	Total Cost	Attribute	Total Cost	Attribute	Total Value
base rate	0.25	base rate	0.25	cons/recons (includes engineering services)	0.00	log haul cost	120,431.08	ind. ad rate	-164,313.94
ad rate	0.25	kv rate	0.00					value needed to bring sale to base rates	166,557.44
ratio	1.000	% kv	0.0%						
Studies in some regions have shown a trend of <u>more</u> bids received from prospective bidders when the base rate to advertised rate ratio is <u>less</u> than 0.1000 (i.e. sale has good value). <i>If the ad rate and base rates are equal, the sale is <u>deficit</u> (i.e. ratio equal to 1.000).</i>		If % KV is 100.0%, then base rates have been <u>increased</u> in order to cover the essential or necessary KV needs. A reduction in essential or necessary KV might be in order <u>especially</u> if the advertised rate equals the base rate then sale is considered deficit and ratio to left is equal to 1.000.		High specified road costs (i.e. construction and/or reconstruction, engineering services) can make sales less desirable. Look for ways to lower these costs such as lower road standards, use lower cost temporary roads, use native surface roads, summer haul, alternate access, and/or different logging systems.		Log haul costs can be a significant factor in the "bidability" of a sale. This is especially true in areas where processing facilities are scarce (i.e. Southern California). Market the sale to the nearest appropriate facility, explore shorter haul routes, and/or optimize road network and haul route for lowest cost.		Displayed is the estimated value needed to bring the sale to the value at base rates and cover KV if the sale is projected to be deficit (as currently designed). This value can be "made up" by reducing costs or raising the log values. <i>If the value above is zero (0), the sale is <u>not</u> deficit.</i>	
Deposit - Contractual Evaluation			Costly deposits that potential bidders must make tends to reduce the potential for the sale to receive bids. Especially if the sale is nearly deficit or the ad rate close to base rate (i.e. potential bidders have very little margin to make a profit, discourages bidding). Often times the purchaser can do the BD needed work cheaper .			Logging Cost Evaluation		Stump-to-truck costs are usually the most significant cost. Explore alternative (less expensive) systems, increase piece sizes, shorten yard/skid distances, raise vol/ac, and/or try unit packaging scenarios.	
Attribute	Rate/ccf	Total Cost				Attribute	Total Cost		
bd/erosion/etc	0.00	0.00				stump-to-truck	514,389.68		
road maint	0.00	0.00				temp roads	44,870.00		
total	0.00	0.00			total	559,259.68			

Total costs (includes p&r, comp. factor) = **747,660**Gross revenue, log prices = **583,310**Net revenue = **(164,350)**Revenue/cost ratio = **0.78**Net revenue minus KV = **(164,350)**

<<the sale-as-a-whole is projected to be DEFICIT>>

Sale Economic Evaluation v3.0 – Little Deer Alternative 3 2016 Harvest

Figure 11: Alternative 3 Timber Sale Economic Evaluation 2016 Harvest

Alternative 3, if harvested in 2015, shows total gross revenue of \$3,024,596, with a total cost of \$2,835,439, which leaves approximate revenue to the purchaser of \$189,157. Alternative 3, if harvested in 2016, shows total gross revenue of \$583,310, with a total cost of \$747,660, which leaves an approximate loss of revenue to the purchaser of (\$-164,350). This potential revenue includes a 10 percent profit margin added in.

Table 10: Alternative 3 2015 Harvest Jobs and Labor Income

	Employment (# Part and Full-time Jobs)			Labor Inc (2010 \$)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total
Thinning-Biomass: Commercial Forest Products						
Logging	4.4	5.2	9.6	213,055	264,104	477,159
Saw mills	0.3	0.5	0.7	13,899	21,559	35,457
Plywood and Veneer Softwood	3.0	3.4	6.4	163,669	198,180	361,850
Plywood and Veneer Hardwood	-	-	-	-	-	-
Oriented Strand Board (OSB)	-	-	-	-	-	-
Mills Processing Roundwood Pulp Wood	-	-	-	-	-	-
Other Timber Products	-	-	-	-	-	-
Facilities Processing Residue From Saw Mills	0.1	0.1	0.2	3,892	5,862	9,754
Facilities Processing Residue From Plywood/Veneer	1.0	2.3	3.3	76,379	115,051	191,430
Biomass--Cogen	0.1	0.1	0.2	8,793	4,763	13,557
Commercial Firewood	0.0	0.0	0.0	\$0	\$0	\$0
Total Commercial Forest Products	8.8	11.6	20.4	479,687	609,520	1,089,206
Other Project Activities						
Facilities, Watershed, Roads and Trails	0.0	0.0	0.0	\$0	\$0	\$0
Abandoned Mine Lands	0.0	0.0	0.0	\$0	\$0	\$0
Ecosystem Restoration, Hazardous Fuels, and Forest Health	0.0	0.0	0.0	\$0	\$0	\$0
Contracted Monitoring	0.0	0.0	0.0	\$0	\$0	\$0
FS Implementation and Monitoring	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total Other Project Activities	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total All Impacts	18.8	11.6	30.5	\$487,842	\$612,796	\$1,100,638

TREAT v7-12-10 – Little Deer Alternative 3 2015 Harvest

Table 11: Alternative 3 2016 Harvest Jobs and Labor Income

	Employment (# Part and Full-time Jobs)			Labor Inc (2010 \$)		
	Direct	Indirect and Induced	Total	Direct	Indirect and Induced	Total
Thinning-Biomass: Commercial Forest Products						
Logging	1.6	1.9	3.5	77,741	96,369	174,110
Saw mills	-	-	-	-	-	-
Plywood and Veneer Softwood	-	-	-	-	-	-
Plywood and Veneer Hardwood	-	-	-	-	-	-
Oriented Strand Board (OSB)	-	-	-	-	-	-
Mills Processing Roundwood Pulp Wood	-	-	-	-	-	-
Other Timber Products	-	-	-	-	-	-
Facilities Processing Residue From Saw mills	-	-	-	-	-	-
Facilities Processing Residue From Plywood/Veneer	-	-	-	-	-	-
Biomass--Cogen	0.2	0.1	0.3	15,105	8,182	23,287
Commercial Firewood	0.0	0.0	0.0	\$0	\$0	\$0
Total Commercial Forest Products	1.8	2.0	3.8	92,846	104,551	197,398
Other Project Activities						
Facilities, Watershed, Roads and Trails	0.0	0.0	0.0	\$0	\$0	\$0
Abandoned Mine Lands	0.0	0.0	0.0	\$0	\$0	\$0
Ecosystem Restoration, Hazardous Fuels, and Forest Health	0.0	0.0	0.0	\$0	\$0	\$0
Contracted Monitoring	0.0	0.0	0.0	\$0	\$0	\$0
FS Implementation and Monitoring	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total Other Project Activities	10.0	0.1	10.1	\$8,156	\$3,276	\$11,432
Total All Impacts	11.8	2.1	13.9	\$101,002	\$107,827	\$208,829

TREAT v7-12-10 – Little Deer Alternative 3 2016 Harvest

Alternative 3, if harvested in 2015, will result in approximately 30.6 total annual jobs, with equal distribution of jobs among racial and ethnic groups (Table 10). Direct employment from the project is 18.8 jobs and 11.6 indirect/induced jobs. This results in a direct labor income of \$487,842, and indirect/induced labor income of \$612,796, totaling \$1,100,638 annual labor income. Alternative 3, if harvested in 2016, will result in approximately 13.9 total annual jobs, with equal distribution of jobs among racial and ethnic groups (Table 11). Direct employment from the project is 11.8 jobs and 2.1 indirect/induced jobs. This results in a direct labor income of \$101,002, and indirect/induced labor income of \$107,827, totaling \$208,829 annual labor income.

The effect on safety of implementing alternative 3 will be that 1558 burned acres will be treated and about 12 miles of roadside hazard trees will be removed. Safety for Siskiyou County as a whole will increase slightly as the Little Deer project area only represents 0.135% of the Siskiyou County land base.

Public firewood cutting may be opened (after timber harvest) within areas analyzed for timber harvest in alternative 3. However the amount of firewood available will be low for multiple reasons. Ponderosa pine, the main species in the project area, is not a desired species for firewood. Large diameter downed wood will be left as coarse woody debris and large snags will be retained as wildlife habitat. Because firewood will not be available until after harvesting operations are complete (at the earliest this will be fall 2015 or spring 2016) most wood available for firewood will already have some rot in it making it less desirable for firewood cutters. Due to these factors it is estimated that only about 50 cords of firewood will be available.

Contractors and purchasers often use a local work force for logging and hauling. This project and associated timber sale will help slow the decline in timber employment in Siskiyou County. The firewood areas in this alternative will contribute to the 4,000-cord yearly demand of surrounding communities from the Goosenest Ranger District. The value of the timber sale portion of the project at advertised rates (if harvested in 2015) is about \$189,026 and one quarter of this value may contribute \$47,256 to Siskiyou County as timber receipts. Changes in lifestyles, values, attitudes and beliefs due to implementation of the Little Deer project are likely to be immeasurable due to the small amount of social effects from the project.

Cumulative Effects

For cumulative effects analysis purposes, all current and reasonably foreseeable similar actions within Siskiyou County over the next 5 years were considered as noted in the cumulative effects of alternative 1. Adding the effects of alternative 3 to the social and economic effects of ongoing and reasonable foreseeable future projects will result in measureable effects but is not likely to result in substantial social or economic cumulative effects.

Summary of Effects

Project alternatives are summarized in the below table (table 12), comparing the differences in analysis indicators and significant economic elements. Alternative 1 equals the highest ranked value in the respective element, and a 5 represents the lowest ranked.

Table 12: Alternative Summary Comparison

Economic Element	Alternative 1	Alternative 2 2015 Harvest	Alternative 2 2016 Harvest	Alternative 3 2015 Harvest	Alternative 3 2016 Harvest
Sawlog Volume	5	1	3	2	3
Sawlog Vol./Ac.	5	1	3	1	3
Biomass Volume	5	3	1	4	2
Profit to Purchaser	5	1	4	2	3
Employment created	5	1	3	2	4
Labor Income	5	1	3	2	4
Cords of Firewood	5	1	1	3	3
Acres of Timber Sale Treatment	5	1	1	3	3
Safety	5	1	3	2	4

Compliance with law, regulation, policy, and the Forest Plan

Guidance for this document includes the Klamath National Forest Land and Resource Management Plan EIS (Forest Plan) (USDA Forest Service 1995b, Chapter III pp. 130-139 and Chapter IV pp. 159-165) and the Siskiyou County Comprehensive Land and Resource Management Plan (County Plan). Laws that guide this assessment include; the National Forest Management Act, the National Environmental Policy Act, USDA Civil Rights Policy, and Executive Order 12898. All federal actions are required to consider the potential of disproportionate effects on minority and low-income populations.

“Four major federal statutes—the NEPA, the Intergovernmental Cooperation Act (ICA), the National Forest Management Act (NFMA), and the Federal Land Policy and Management Act (FLPMA)—mandate intergovernmental coordination and cooperation, especially where local and State governments can be or are affected by federal agency decisions (County Plan, 1996).”

“Each county under NEPA must determine and define its local custom and culture and then act to protect them. Siskiyou County has defined its custom and culture. Once a county government

has identified and defined its custom and culture, it must inform the federal agencies of the definition and request that custom and culture be preserved under NEPA (County Plan, 1996).”

Alternative 1 will not improve the economic conditions of communities adjacent to the project area as encouraged by the Forest Plan.

All action alternatives are consistent with the Forest Plan, as noted on the Forest Plan checklist for this project, available on the project website at <http://www.fs.fed.us/nepa/fs-usda-pop.php/?project=30290>.

All action alternatives will be consistent with the goals of the Siskiyou County Comprehensive Land and Resource Management Plan and comply with law, policy, and regulation.

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